

STEREO POWER AMPLIFIER

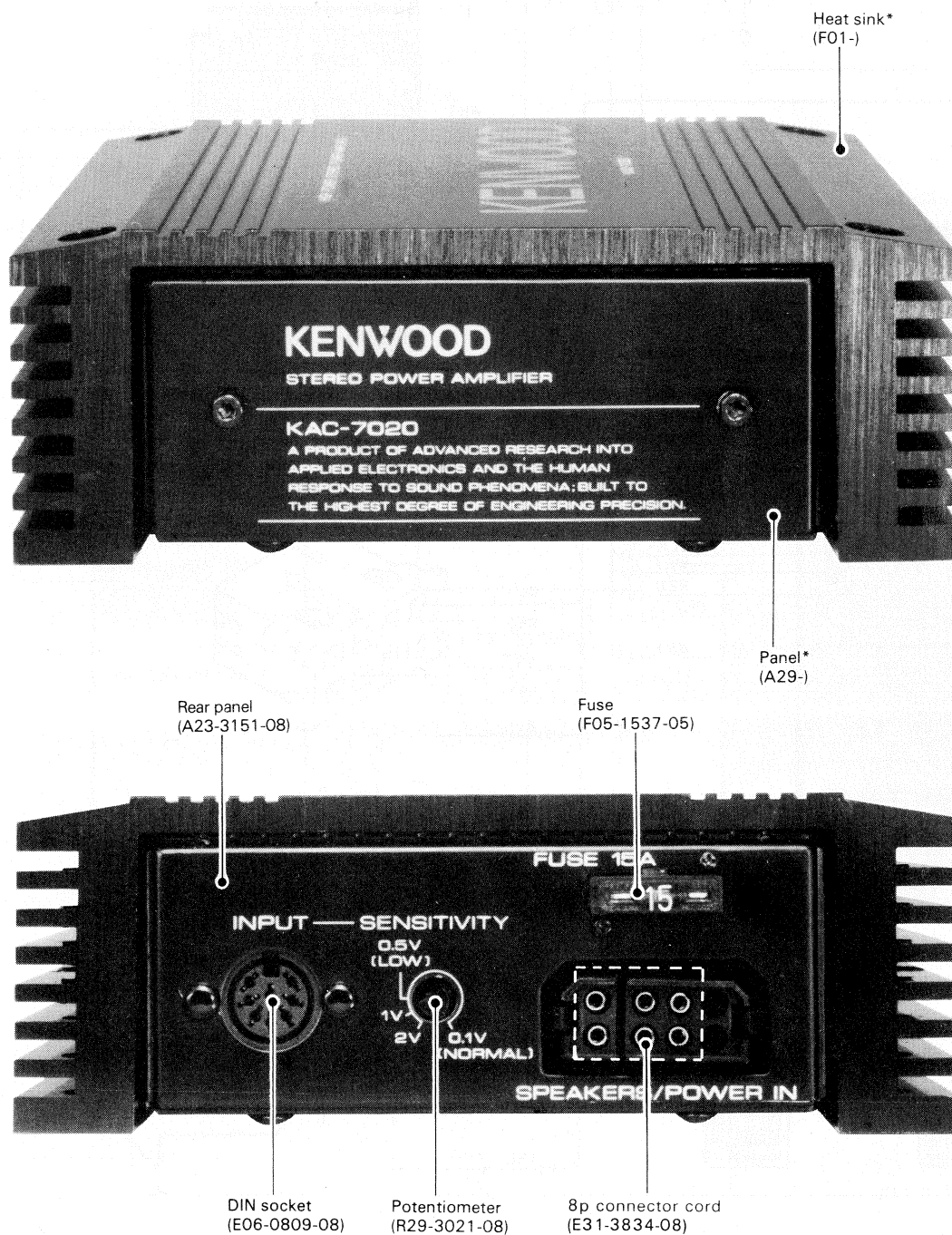
# KAC-7020

## SERVICE MANUAL

# KENWOOD

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B51-1890-10 (G) 2116

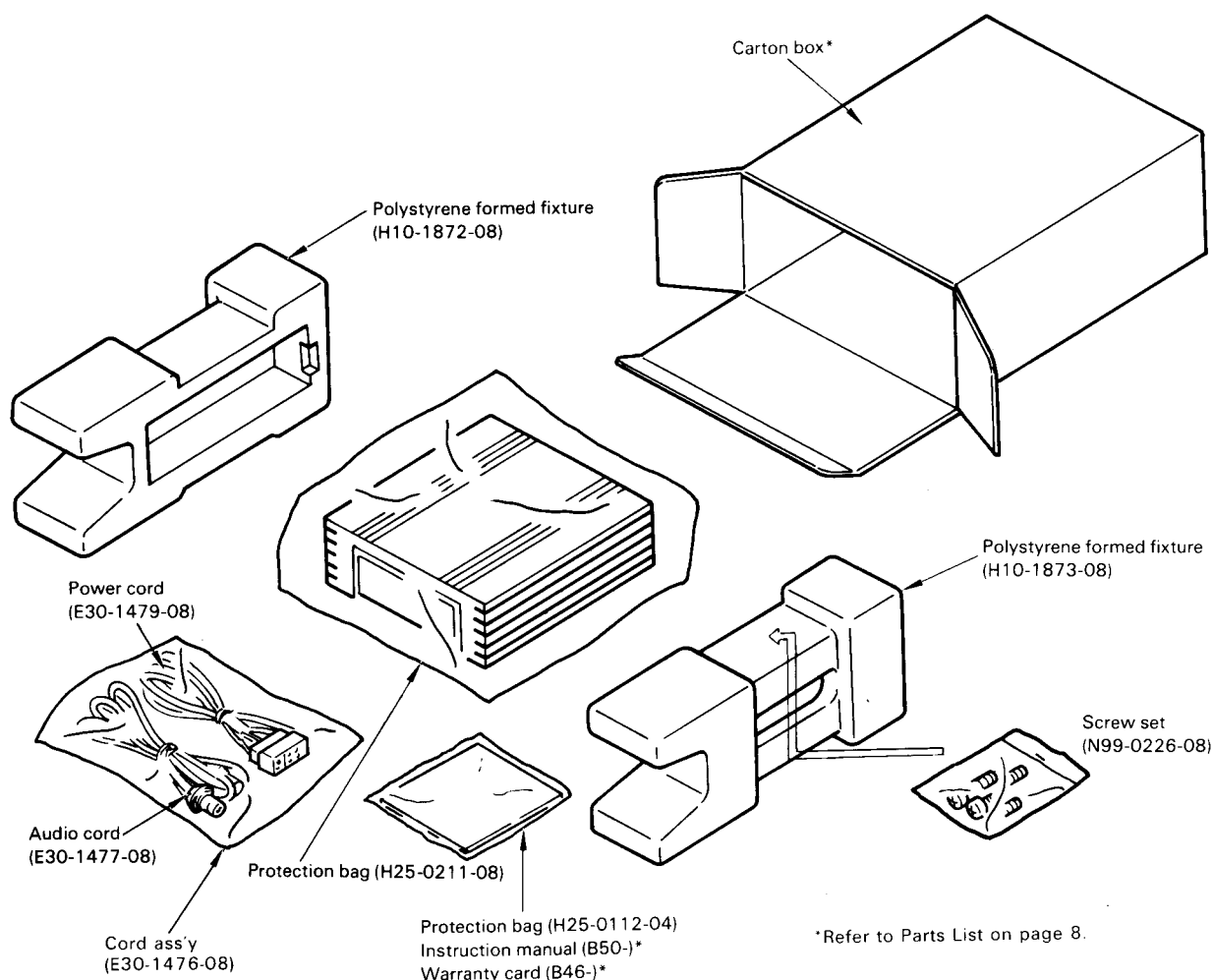
### REVISED (1)



\*Refer to parts list on page 8.

This Service Manual is a revised version, which applies to units with Serial No. 71M10001 and after. The difference from the previous version lies in the modification of PC boards and circuit diagrams

## PACKING



## SPECIFICATIONS

### Main amp section

Maximum output power (1 kHz, 4 $\Omega$ ) .....	70 W + 70 W
Maximum rated output power (10% THD, 1 kHz, 4 $\Omega$ ) .....	45 W + 45 W
Rated output power (1% THD, 20 Hz - 30 kHz, 4 $\Omega$ ) .....	37 W + 37 W
Frequency response (-3 dB) .....	2 Hz - 100 kHz
Minimum distortion (10 W, 1 kHz, 4 $\Omega$ ) .....	0.007%
Input sensitivity (at rated output) Max. ....	0.1 V
Min. ....	2.0 V
Signal-to-noise ratio (IHF-A) .....	100 dB
Input impedance .....	10 k $\Omega$
Load impedance .....	4 $\Omega$ (4 ~ 8 $\Omega$ )
Damping factor (1 kHz) .....	More than 100

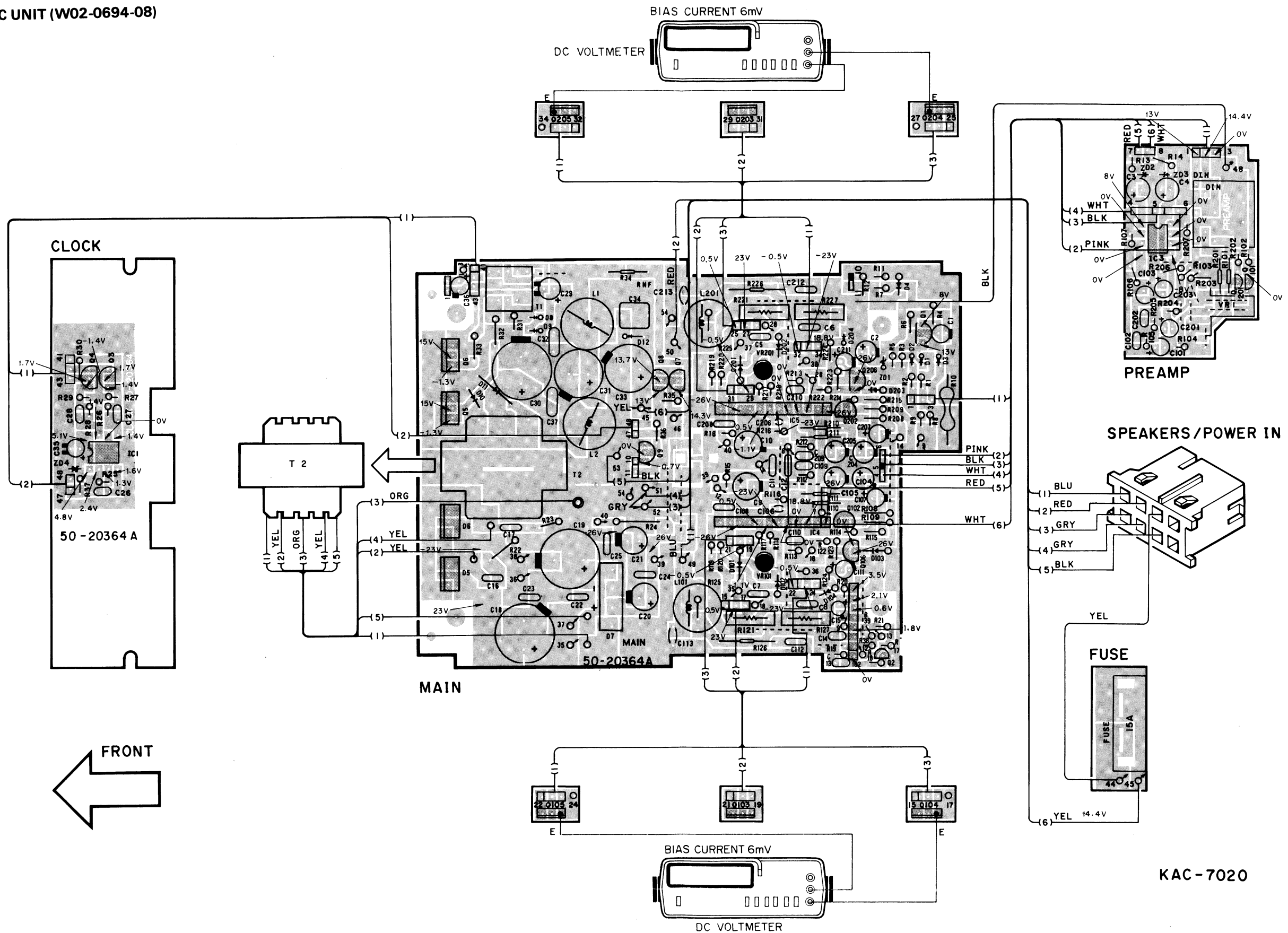
### General

Operating voltage (GND) .....	14.4 V (11 - 16 V)
Current consumption .....	9.5 A
Dimensions (W x H x D) .....	150 x 150 x 54 mm
Weight .....	1.7 kg

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

PC BOARD

ELECTRIC UNIT (W02-0694-08)



KAC-7020

2SA1315

2SA771  
2SC1986  
2SC3708  
2SD1062

2SA1048  
2SC2458

2SC3421

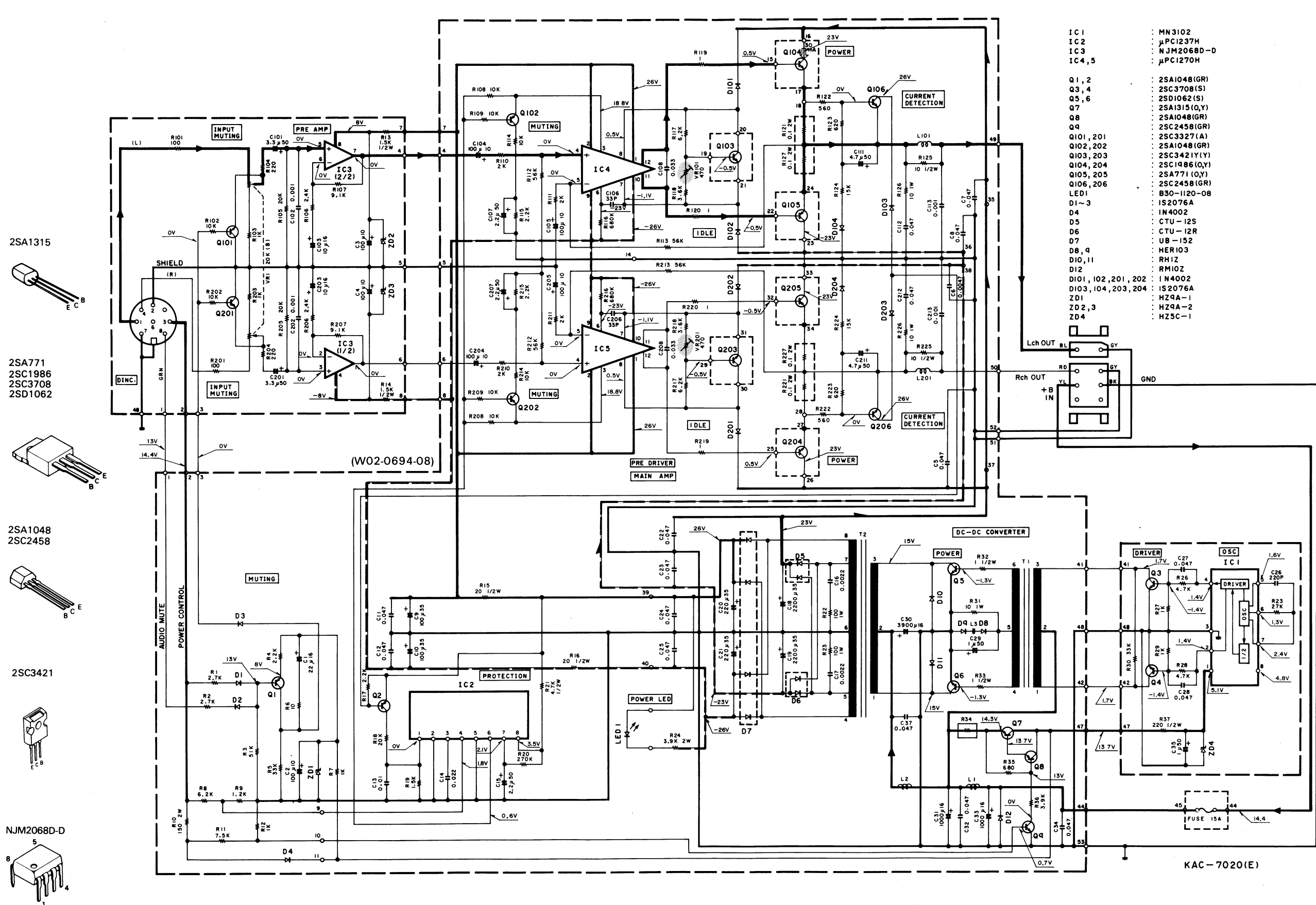
NJM2068D-D

UPC1237H

MN3102

UPC1270H

- |                     |              |
|---------------------|--------------|
| IC 1                | MN3102       |
| IC 2                | μPC1237H     |
| IC 3                | NJM2068D-D   |
| IC 4, 5             | μPC1270H     |
| Q1, 2               | 2SA1048(IG)  |
| Q3, 4               | 2SC3708(S)   |
| Q5, 6               | 2SD1062(S)   |
| Q7                  | 2SA1315(O,Y) |
| Q8                  | 2SA1048(IG)  |
| Q9                  | 2SC2458(IG)  |
| Q101, 201           | 2SC3327(A)   |
| Q102, 202           | 2SA1048(IG)  |
| Q103, 203           | 2SC3421(Y)   |
| Q104, 204           | 2SC1986(O,Y) |
| Q105, 205           | 2SA771(O,Y)  |
| Q106, 206           | 2SC2458(IG)  |
| LED1                | B30-1120-08  |
| D1~3                | IS2076A      |
| D4                  | IN4002       |
| D5                  | CTU-12S      |
| D6                  | CTU-12R      |
| D7                  | UB-152       |
| D8, 4               | HER103       |
| D10, 11             | RH12         |
| D12                 | RM102        |
| D101, 102, 201, 202 | IN4002       |
| D103, 104, 203, 204 | IS2076A      |
| ZD1                 | HZ9A-1       |
| ZD2, 3              | HZ9A-2       |
| ZD4                 | HZ5C-1       |



**CAUTION:** For continued safety, replace safety critical components only with manufacture's recommended parts (refer to parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units.

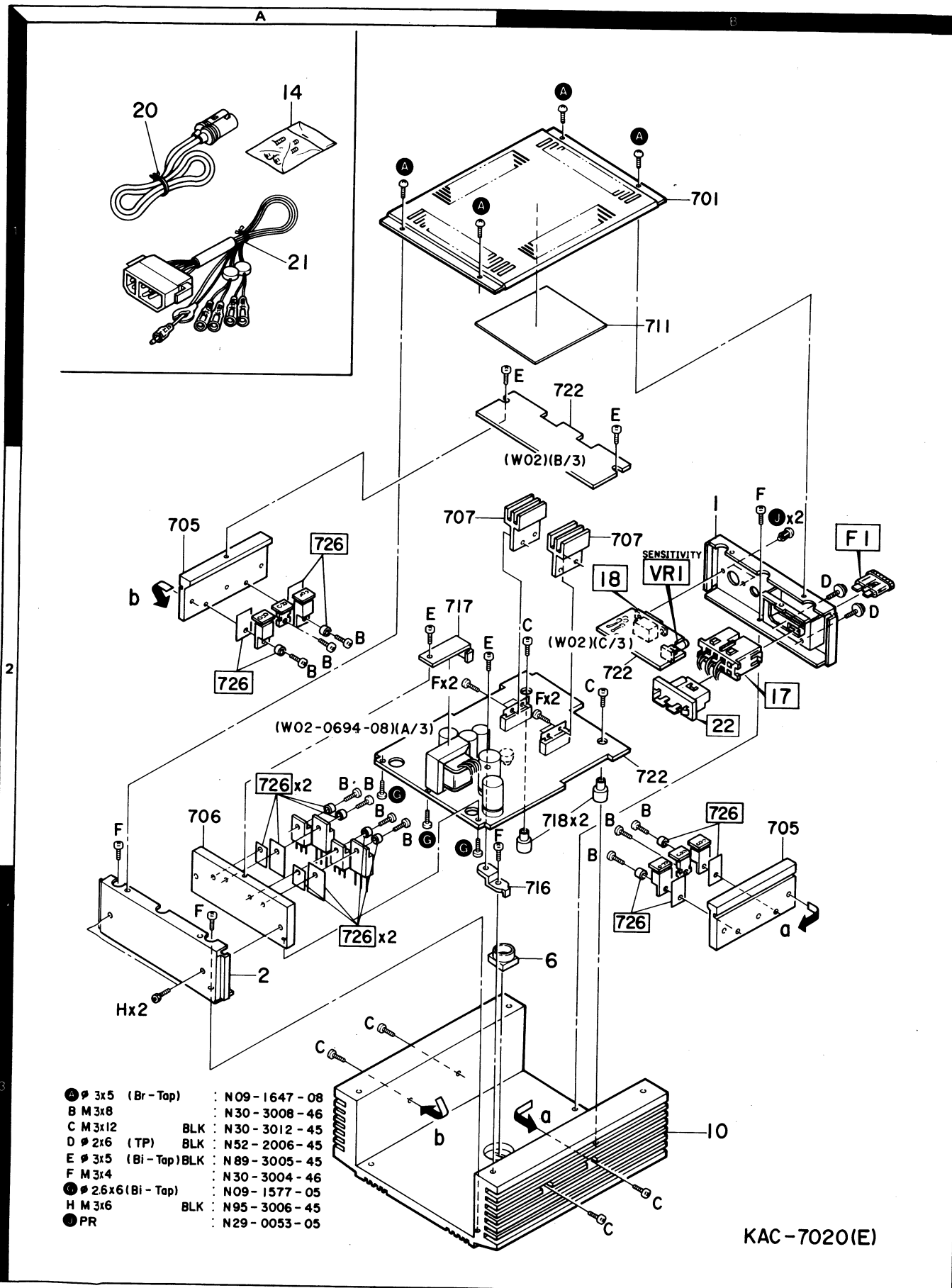
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance pendant la réception d'un signal de programme FM (avec une force de signal de 60 dB à la borne ANT). Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser bei Empfang eines UKW-Signals (mit einer Feldstärke von 60 dB am Antennenanschluß) gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

**KAC-7020**  
**KENWOOD**

# KAC-7020 KAC-7020

## EXPLODED VIEW



## PARTS LIST

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
<b>KAC-7020</b>						
1	2B		A23-3151-08	REAR PANEL		
2	3A		A29-0078-08	PANEL	E	
2	3A		A29-0079-08	PANEL	T	
6	3B		B19-0395-08	LIGHTING BOARD		
			B46-0100-00	WARRANTY CARD	E	
			B46-0123-03	WARRANTY CARD	T	
			B50-6098-00	INSTRUCTION MANUAL (E,F)	E	
			B50-6099-00	INSTRUCTION MANUAL (G,I)	E	
			B50-6100-00	INSTRUCTION MANUAL (ENGLISH)	T	
			B58-0245-33	CAUTION CARD	E	
10	3B		F01-0699-08	HEAT SINK	E	
10	3B		F01-0700-08	HEAT SINK	T	
			H01-7102-08	ITEM CARTON BOX	E	
			H01-7103-08	ITEM CARTON BOX	T	
			H03-0806-08	OUTER PACKING CASE	E	
			H03-0807-08	OUTER PACKING CASE	T	
			H10-1872-08	POLYSTYRENE FOAMED FIXTURE		
			H10-1873-08	POLYSTYRENE FOAMED FIXTURE		
			H12-0133-08	PAPER BOARD		
			H25-0096-04	PROTECTION BAG		
			H25-0112-04	PROTECTION BAG		
			H25-0211-08	P.E BAG		
14	1A		N99-0226-08	SCREW SET		
A	1A, 1B		N09-1647-08	SCREW (Ø3X5)		
G	2A		N09-1577-05	SCREW (Ø2.6X6)		
J	2B		N29-0053-05	PUSH RIVET		
<b>ELECTRIC UNIT (W02-0694-08)</b>						
LED1			B30-1120-08	LED (POWER)		
C1			CE04DW1C220M	ELECTRO	22UF	16WV
C2 -4			CE04DW1A101M	ELECTRO	100UF	10WV
C5 -8			CQ92M1H473K	MYLAR	0.047UF	K
C9 ,10			CE04DW1V101M	ELECTRO	100UF	35WV
C11 ,12			CQ92M1H473K	MYLAR	0.047UF	K
C13			CQ92M1H103K	MYLAR	0.010UF	K
C14			CQ92M1H223K	MYLAR	0.022UF	K
C15	*		CE04DW1C2R2M	ELECTRO	2.2UF	16WV
C16 ,17			CF92V1H222J	MF	2200PF	J
C18 ,19	*		C90-1514-08	ELECTRO	2200UF	35WV
C20 ,21	*		C90-1515-08	ELECTRO	220UF	35WV
C22 -25			CF92V1H473J	MF	0.047UF	J
C26	*		CQ92P2A221J	MYLAR	220PF	J
C27 ,28			CF92V1H473J	MF	0.047UF	J
C29	*		CE04DW1H010M	ELECTRO	1.0UF	50WV
C30			C90-1356-08	ELECTRO	3900UF	16WV
C31			CE04DW1C222M	ELECTRO	2200UF	16WV
C32			CK45F1H473Z	CERAMIC	0.047UF	Z
C33			CE04DW1C102M	ELECTRO	1000UF	16WV
C34			CK45F1H473Z	CERAMIC	0.047UF	Z
C35			CE04DW1H010M	ELECTRO	1.0UF	50WV
C37			CK45F1H473Z	CERAMIC	0.047UF	Z
C101			CE04DW1H3R3M	ELECTRO	3.3UF	50WV

E: Scandinavia & Europe K: USA P: Canada  
U: PX(Far East, Hawaii) T: England M: Other Areas  
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C102 C103 C104,105 C106 C107			C092M1H102K CE04DW1C100M CE04DW1A101M CC45CH1H330J CE04DW1H2R2M	MYLAR 1000PF K ELECTRO 10UF 16WV ELECTRO 100UF 10WV CERAMIC 33PF J ELECTRO 2.2UF 50WV		
C108 C111 C112 C113 C201			C092M1H333K CE04DW1H2R2M CF92V1H473J CK45B1H102K CE04DW1H3R3M	MYLAR 0.033UF K ELECTRO 2.2UF 50WV MF 0.047UF J CERAMIC 1000PF K ELECTRO 3.3UF 50WV		
C202 C203 C204,205 C206 C207			C092M1H102K CE04DW1C100M CE04DW1A101M CC45CH1H330J CE04DW1H2R2M	MYLAR 1000PF K ELECTRO 10UF 16WV ELECTRO 100UF 10WV CERAMIC 33PF J ELECTRO 2.2UF 50WV		
C208 C211 C212 C213			C092M1H333K CE04DW1H2R2M CF92V1H473J CK45B1H102K	MYLAR 0.033UF K ELECTRO 2.2UF 50WV MF 0.047UF J CERAMIC 1000PF K		
18 17 20 21	2B 2B 1A 1A		E31-3834-08 E06-0809-08 E30-1477-08 E30-1479-08	8P CONNECTOR CORD DIN SOCKET AUDIO CORD CONNECTING CORD ASSY		
F1	2B		F05-1537-05	FUSE (15A)		
22	2B		J13-0063-08	FUSE HOLDER		
L1 ,2 L3 L101 L201 T1			L33-0317-08 L92-0016-08 L39-0113-08 L39-0113-08 L19-0045-08	CHOKE COIL FERRITE BEAD CORE COIL COIL DRIVER TRANSFORMER		
T2			L19-0044-08	PULSE TRANSFORMER		
R10 R13 ,14 R15 ,16 R21 R22 ,23		*	RS14DB3D151J RD14CB2H152J RD14CB2H200J RD14CB2H472J RS14DB3A101J	FL-PROOF RS 150 J 2W RD 1.5K J 1/2W RD 20 J 1/2W RD 4.7K J 1/2W FL-PROOF RS 100 J 1W		
R24 R31 R32 ,33 R34 R37		*	RS14DB3A392J RS14DB3A100J RD14CB2H010 R92-0351-08 RD14CB2H271J	FL-PROOF RS 3.9K J 1W FL-PROOF RS 10 J 1W RD 1.0 J 1/2W RN 1 K 1/4W RD 270 J 1/2W		
R121 R125 R126 R127 R221			R92-0266-08 RD14CB2H100J RS14DB3A100J R92-0266-08 R92-0266-08	RESISTOR 0.1 J RD 10 J 1/2W FL-PROOF RS 10 J 1W RESISTOR 0.1 J RESISTOR 0.1 J		
R225 R226 R227 VR1 VR101 VR201	2B		RD14CB2H100J RS14DB3A100J R92-0266-08 R29-3021-08 R12-1054-05 R12-1054-05	RD 10 J 1/2W FL-PROOF RS 10 J 1W RESISTOR 0.1 J POTENTIOMETER(20KB) SENSITIVITY TRIMMING POT. (1KB) IDLE TRIMMING POT. (1KB) IDLE		

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D1 D3 D4 D5 D6			1S2076A 1S2076A 1N4002 CTU-12S CTU-12R	DIODE DIODE DIODE DIODE DIODE		
D7 D8 ,9 D10 ,11 D12 D101,102			UB-152 HER103 RH1Z RM10Z 1N4002	DIODE DIODE DIODE DIODE DIODE		
D103,104 D201,202 D203,204 IC1 IC2			1S2076A 1N4002 1S2076A MN3102 UPC1237H	DIODE DIODE DIODE IC(CLOCK GENERATOR/V OPERATION IC(PROTECTION)		
IC3 IC4 ,5 Q1 ,2 Q3 ,4 Q5 ,6			NJM2068D-D UPC1270H 2SA1048(GR) 2SC3708(S) 2SD1062(S)	IC(OP AMP X2) IC(POWER AMP)) TRANSISTOR TRANSISTOR TRANSISTOR		
Q7 Q8 Q9 Q101 Q102			2SA1315(Y,Ø) 2SA1048(GR) 2SC2458(GR) 2SC3327(A) 2SA1048(GR)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q103 Q104 Q105 Q106 Q201		*	2SC3421(Y,Ø) 2SA1986(Y,G) 2SA771(Y,G) 2SC2458(GR) 2SC3327(A)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q202 Q203 Q204 Q205 Q206		*	2SA1048(GR) 2SC3421(Y,Ø) 2SA1986(Y,G) 2SA771(Y,G) 2SC2458(GR)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
ZD1 ZD2 ,3 ZD4			HZ9A-1 HZ9A-2 HZ5C-1	ZENER DIODE ZENER DIODE ZENER DIODE		
SCREW SET (N99-0226-05)						
			N44-4014-46	SCREW (Ø4X14)		

### Note

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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